

SEQUENCE LISTING

<110> Horvitz, H. Robert
 Davison, Ewa M.
 Lu, Xiaowei

<120> A Tumor Suppressor Pathway in C. Elegans

<130> 01997/536002

<150> US 60/208,802

<151> 2000-06-02

<160> 78

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 386

<212> PRT

<213> Caenorhabditis elegans

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Ser	Arg	Ser	Gln	Ala	Ile	Met	Glu	His	Tyr	Pro	Ile	Val	Ala	Thr	
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Glu	Thr	Tyr	Arg	Thr	Gly	Leu	Leu	Leu	Ser	Ile	Lys	Ser	Leu	Lys	
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Cys	Val	Glu	Glu	Glu	Pro	Tyr	Glu	Glu	Thr	Gly	Ser	Asn	Trp	Ser	Asp
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Pro	Ala	Pro	Glu	Pro	Ser	Gln	Ser	Lys	Ser	Gln	Ser	Pro	Glu	Ala	Lys
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 Asn Ser
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<210> 2

<211> 1276

<212> DNA

<213> Caenorhabditis elegans

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<211> 322

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<213> Caenorhabditis elegans

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 35 40 45

Thr	Ala	Pro	Ile	Pro	Thr	Val	Pro	Glu	Ile	Glu	Lys	Gln	Leu	Leu	Leu
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Ser	Ala	Val	Thr	Leu	Ser	Ile	Asp	Asn	Ala	Ser	Ile	Ile	Leu	Thr	Ala
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Thr	Val	Ile	Gly	Tyr	Cys	Arg	Asp	Pro	Ser	Asp	Ala	Val	Asn	Gln	Ile
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Arg	Lys	Glu	Ser	Leu	Arg	Ala	Cys	Thr	Lys	His	Phe	Asn	Ser	Ile	Phe
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Ile	Arg	Ser	Ser	Leu	Gly	Glu	Gln	Phe	Thr	Lys	Phe	Asp	Val	Arg	Asn
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Phe	Lys	Ser	Ile	Leu	Gln	Ser	Phe	Leu	Asp	Thr	Phe	Gly	Glu	Ile	Asp
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Glu	Met	Asp	Ser	Glu	Asn	Val	Glu	Ile	Lys	Met	Glu	Ser	Pro	Gln	Glu
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Glu	Ala	Ala	Glu	Lys	Ser	Lys	Phe	Ser	Glu	Asn	Leu	Val	Glu	Val	Lys
225						230				235					240
Leu	Glu	Pro	Ile	Glu	Thr	His	Glu	Leu	Asp	Lys	Thr	Ile	Ser	Asp	Phe
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Glu	Ala														

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 <213> Caenorhabditis elegans

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<213> Caenorhabditis elegans

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Lys Gly Lys Thr Ser Phe Ile Pro Val Glu Ala Phe Asn Arg Asn Leu
35     40     45
Thr Val Asn Phe Asn Glu Cys Val Lys Glu Gly Val Ile Phe Glu Thr
50     55     60
Val Val His Asp Tyr Asp Lys Asn Cys Asp Ser Ile Gln Val Arg Trp
65     70     75     80
Phe Ala Arg Ile Glu Lys Val Cys Gly Tyr Arg Val Leu Ala Gln Phe
85     90     95
Ile Gly Ala Asp Thr Lys Phe Trp Leu Asn Ile Leu Ser Asp Asp Met
100    105    110
Phe Gly Leu Ala Asn Ala Ala Met Ser Asp Pro Asn Met Asp Lys Ile
115    120    125
Val Tyr Ala Pro Pro Leu Ala Ile Asn Glu Glu Tyr Gln Asn Asp Met
130    135    140
Val Asn Tyr Val Asn Asn Cys Ile Asp Gly Glu Ile Val Gly Gln Thr
145    150    155    160
Ser Leu Ser Pro Lys Phe Asp Glu Gly Lys Ala Leu Leu Ser Lys His
165    170    175
Arg Phe Lys Val Gly Gln Arg Leu Glu Leu Leu Asn Tyr Ser Asn Ser
180    185    190
Thr Glu Ile Arg Val Ala Arg Ile Gln Glu Ile Cys Gly Arg Arg Met
195    200    205
Asn Val Ser Ile Thr Lys Lys Asp Phe Pro Glu Ser Leu Pro Asp Ala
210    215    220
Asp Asp Asp Arg Gln Val Phe Ser Ser Gly Ser Gln Tyr Trp Ile Asp
225    230    235    240
Glu Gly Ser Phe Phe Ile Phe Pro Val Gly Phe Ala Ala Val Asn Gly
245    250    255
Tyr Gln Leu Asn Ala Lys Lys Glu Tyr Ile Glu His Thr Asn Lys Ile
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Ala Gln Ala Ile Lys Asn Gly Glu Asn Pro Arg Tyr Asp Ser Asp Asp
275    280    285
Val Thr Phe Asp Gln Leu Ala Lys Asp Pro Ile Asp Pro Met Ile Trp
290    295    300
Arg Lys Val Lys Val Gly Gln Lys Phe Glu Leu Ile Asp Pro Leu Ala
305    310    315    320
Gln Gln Phe Asn Asn Leu His Val Ala Ser Ile Leu Lys Phe Cys Lys
325    330    335
Thr Glu Gly Tyr Leu Ile Val Gly Met Asp Gly Pro Asp Ala Leu Glu
340    345    350
Asp Ser Phe Pro Ile His Ile Asn Asn Thr Phe Met Phe Pro Val Gly
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Tyr Ala Glu Lys Tyr Asn Leu Glu Leu Val Pro Pro Asp Glu Phe Lys
370    375    380

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Lys	Phe	Lys	Val	Ile	Leu	Ile	Ser	Lys	Arg	Val	Gly	Leu	Arg	Leu	Glu
			420					425					430		
Ala	Ala	Asp	Met	Cys	Glu	Asn	Gln	Phe	Ile	Cys	Pro	Ala	Thr	Val	Lys
		435					440					445			
Ser	Val	His	Gly	Arg	Leu	Ile	Asn	Val	Asn	Phe	Asp	Gly	Trp	Asp	Glu
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Glu	Phe	Asp	Glu	Leu	Tyr	Asp	Val	Asp	Ser	His	Asp	Ile	Leu	Pro	Ile
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Asn Tyr

<210> 6
 <211> 1497
 <212> DNA
 <213> Caenorhabditis elegans

<400> 6

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<210> 7
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<220>
 <223> derived from Caenorhabditis elegans, Drosophila melanogaster, Mus musculus and Homo sapiens

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			20					25					30		
Lys	Val	Gly	Met	Lys	Leu	Glu	Ala	Val	Asp	Pro	Arg	Asn	Pro	Ser	Leu
		35					40					45			
Ile	Cys	Val	Ala	Thr	Val	Val	Glu	Val	Lys	Gly	Tyr	Arg	Leu	Leu	Leu
	50				55						60				
His	Phe	Asp	Gly	Trp	Asp	Asp	Arg	Tyr	Asp	Phe	Trp	Cys	Asp	Ala	Asp
65					70					75				80	
Ser	Pro	Asp	Ile	Phe	Pro	Val	Gly	Trp	Cys	Glu	Lys	Asn	Gly	His	Pro
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Leu	Gln	Pro	Pro												
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<210> 8

<211> 100

<212> PRT

<213> Drosophila melanogaster

<400> 8

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			20					25					30		
Lys	Leu	Gly	Met	Lys	Leu	Glu	Gly	Ile	Asp	Pro	Gln	His	Pro	Ser	Met
		35					40					45			
Tyr	Phe	Ile	Leu	Thr	Val	Ala	Glu	Val	Cys	Gly	Tyr	Arg	Leu	Arg	Leu
	50				55						60				
His	Phe	Asp	Gly	Tyr	Ser	Glu	Cys	His	Asp	Phe	Trp	Val	Asn	Ala	Asn
65					70					75				80	
Ser	Pro	Asp	Ile	His	Pro	Ala	Gly	Trp	Phe	Glu	Lys	Thr	Gly	His	Lys
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Leu	Gln	Leu	Pro												
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<211> 100

<212> PRT

<213> Drosophila melanogaster

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Lys	His	Met	Phe	Val	Ser	Gln	Ser	His	Ser	Pro	Pro	Pro	Leu	Gly	Phe
			20					25					30		
Gln	Val	Gly	Met	Lys	Leu	Glu	Ala	Val	Asp	Arg	Met	Asn	Pro	Ser	Leu
		35					40					45			
Val	Cys	Val	Ala	Ser	Val	Thr	Asp	Val	Val	Asp	Ser	Arg	Phe	Leu	Val
	50				55						60				
His	Phe	Asp	Asn	Trp	Asp	Thr	Tyr	Asp	Tyr	Trp	Cys	Asp	Pro	Ser	
65					70				75					80	
Ser	Pro	Tyr	Ile	His	Pro	Val	Gly	Trp	Cys	Gln	Lys	Gln	Gly	Lys	Pro
				85					90					95	
Leu	Thr	Pro	Pro												
			100												

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 <213> Drosophila melanogaster

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 35 40 45
 Ser Val Glu Asp Val Glu Asp His Arg Ile Lys Ile His Phe Asp Gly
 50 55 60
 Trp Ser His Gly Tyr Asp Phe Trp Ile Asp Ala Asp His Pro Asp Ile
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 His Pro Ala Gly Trp Cys Ser Lys Thr Gly His Pro Leu Gln Pro Pro
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<210> 11
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 <213> Drosophila melanogaster

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 35 40 45
 Cys Val Cys Ser Ile Val Glu Val Arg Gly Tyr Arg Leu Lys Leu Ser
 50 55 60
 Phe Asp Gly Tyr Ser Ser Met Tyr Asp Phe Trp Val Asn Ala Asp Ser
 65 70 75 80
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<210> 12
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 <213> Drosophila melanogaster

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 35 40 45
 Ile Cys Val Ala Thr Val Thr Asp Ile Leu Asp Glu Arg Ile Arg Val
 50 55 60
 His Phe Asp Gly Trp Asp Asp Cys Tyr Asp Leu Trp Val His Ile Thr
 65 70 75 80

Ser Pro Tyr Ile His Pro Cys Gly Trp His Glu Gly Arg Gln Gln Leu
85 90 95
Ile Val Pro Pro
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<210> 13
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<213> Drosophila melanogaster

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20 25 30
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35 40 45
Thr Val Val Thr Arg Lys Gly Tyr Arg Val Gln Leu His Leu Asp Cys
50 55 60
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His Pro Ile Gly Trp Cys Glu Ala Thr Ser His Glu Leu Glu Thr Pro
85 90 95

<210> 14
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<212> PRT
<213> Mus musculus

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35 40 45
Cys Ile Ala Thr Val Val Gly Leu Thr Gly Ala Arg Leu Arg Leu Arg
50 55 60
Leu Asp Gly Ser Asp Asn Lys Asn Asp Phe Trp Arg Leu Val Asp Ser
65 70 75 80
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Gln Pro Pro

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<212> PRT
<213> Homo sapiens

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Lys Val Gly Met Lys Leu Glu Ala Ile Asp Lys Lys Asn Pro Tyr Leu

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<210> 18
<211> 1276
<212> DNA
<213> Caenorhabditis elegans
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aataacatac caagcgatcc gtattgcccc agagcagccg gaacgtctga aattgctccg 1080
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tttgtagagg gatttggcgc aaaagaattc gtgataattt ttttttgagt tttttaattt 1200
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<210> 19

<211> 386

<212> PRT

<213> *Caenorhabditis elegans*

<400> 19

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Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
 20          25          30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35          40          45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50          55          60
Lys Lys Val Met Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65          70          75          80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85          90          95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Ser Ile Lys Ser Leu Lys
100          105          110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115          120          125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130          135          140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
145          150          155          160
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
165          170          175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
180          185          190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
195          200          205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
210          215          220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
225          230          235          240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
245          250          255
Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
260          265          270
Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
275          280          285
Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
290          295          300
Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Ser Phe Thr
305          310          315          320
Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
325          330          335
Ile Thr Tyr Gln Ala Ile Arg Ile Ala Arg Glu Gln Pro Glu Arg Leu
340          345          350

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Lys Leu Leu Arg Lys Ala Leu Phe Asp Val Val Leu Ala Phe Asp Gln
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 Asn Ser
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<210> 20
 <211> 1276
 <212> DNA
 <213> *Caenorhabditis elegans*

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 tcgagactat acacaacgct gggaggccga cttgttgaaa gatttggacg tgggtgctcgg 540
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 tgacgatttc tatcaagagg aacatgaatc cgcacaaac gccatgtatc ggatcgcttt 840
 ctcacagcag tacggtggcg gcgggtcccc agccgtgcag aagcccgtca cttttagtgc 900
 tcagccggcg ccggcgccag tttagagagg cccaagccca gttgtggaga atgttagttc 960
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 aataacatac caagcgatcc gtattgcccg agagcagccg gaacgtctga aattgctccg 1080
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 aaaaaaaaaa aaaaaa 1276

<210> 21
 <211> 78
 <212> PRT
 <213> *Caenorhabditis elegans*

<400> 21
 Met Ser Lys Ile Lys Thr His Ser Thr Gly Ser Lys Arg Thr Val Pro
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 20 25 30
 Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35 40 45
 Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50 55 60
 Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile
 65 70 75

<210> 22
 <211> 1276
 <212> DNA
 <213> *Caenorhabditis elegans*

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<400> 22
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ttacgatgtg aatgatgaga cgctgaaaaa agtgggtgctc aacgagattg gcaagtgtccc 240
ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
tgaaacgtac aggaggacag ggttgctgtt gtctatcaaa tcgctgaaat aaatctacaa 360
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tcgagactat acacaacgct gggaggccga cttgttgaaa gatttggacg tgggtgctcgg 540
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gcccattggag cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
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<210> 23
<211> 112
<212> PRT
<213> Caenorhabditis elegans

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<400> 23
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Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
  20           25           30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
  35           40           45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
  50           55           60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
  65           70           75           80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
  85           90           95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
 100           105           110

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<210> 24
<211> 1276
<212> DNA
<213> Caenorhabditis elegans

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ttacgatgtg aatgatgaga cgctgaaaaa agtgggtgctc aacgagattg gcaagtgtccc 240
ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
tgaaacgtac aggaggacag ggttgctgtt gtctatcaaa tcgctgaaac aaatctacaa 360
atgcggaaaag gacaatctcc gaaaccggct tcacgtggca attgtaagca agcggccttac 420

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accggcccaa gtagaggcct atatgtggcg ctgggagttt tacggcttta ttcgctacta 480
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gctcgaggct cggcgagcat cgaaaaatat ggaaaagggtg gattctgggg agctcatgga 600
gccccatggag cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
ggagacaggg tccaattgga gcgatccggc gccggaacca tccaatcca aatcccagtc 720
cccagaagcc aagtaccctc aagcctacct actacctgag gcggacgaag tctacaatcc 780
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tcagccggcg ccggcgccag ttagagaggc cccaagcca gttgtggaga atgttagttc 960
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<210> 25

<211> 386

<212> PRT

<213> *Caenorhabditis elegans*

<400> 25

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Met Ser Lys Ile Lys Thr His Ser Thr Gly Ser Lys Arg Thr Val Pro
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Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
 20          25          30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35          40          45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50          55          60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65          70          75          80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85          90          95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
100          105          110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu His Val
115          120          125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130          135          140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
145          150          155          160
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
165          170          175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
180          185          190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
195          200          205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
210          215          220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
225          230          235          240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
245          250          255
Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
260          265          270
Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
275          280          285
Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg

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290		295		300
Glu Ala Pro Ser Pro Val	Glu Asn Val Ser	Ser Ser Ser Phe Thr		
305	310	315	320	
Pro Lys Pro Pro Ala Met	Ile Asn Asn Phe Gly	Glu Glu Met Asn Gln		
325	330	335		
Ile Thr Tyr Gln Ala Ile	Arg Ile Ala Arg Glu	Gln Pro Glu Arg Leu		
340	345	350		
Lys Leu Leu Arg Lys Ala	Leu Phe Asp Val Val	Leu Ala Phe Asp Gln		
355	360	365		
Lys Glu Tyr Ala Asp Val	Gly Asp Leu Tyr Arg	Asp Leu Ala Gln Lys		
370	375	380		
Asn Ser				
385				

<210> 26
 <211> 1276
 <212> DNA
 <213> Caenorhabditis elegans

<400> 26

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ggatatttgg	agctcgcgga	gccaggcagc	cattatggag	cactatccga	ttgttgcaac	300
tgaaacgtac	aggaggacag	ggttgctgtt	gtctatcaaa	tcgctgaaac	aaatctacaa	360
atgcggaaaag	gacaatctcc	gaaaccggct	tcgctgggca	attgtaagca	agcggccttac	420
accggcccaa	gtagaggcct	atatgtggca	ctgggagttt	tacggcttta	ttcgctacta	480
tcgagactat	acacaacgct	gggaggccga	cttgttgaaa	gatttggacg	tggtgctcgg	540
gctcgaggct	cggcgagcat	cgaaaaatat	ggaaaagggtg	gattctgggg	agctcatgga	600
gcccattggag	cccattggatt	ctacaatgga	tgagatgtgc	gtcaggagg	agccctacga	660
ggagacaggg	tccaattgga	gcgatccggc	gccggaacca	tcccaatcca	aatcccagtc	720
cccagaagcc	aagtaccctc	aagcctacct	actacctgag	gcggacgaag	tctacaatcc	780
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tcagccggcg	ccggcgccag	ttagagaggc	cccaagccca	gttggtgaga	atgttagttc	960
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aataacatac	caagcgatcc	gtattgcccc	agagcagccg	gaacgtctga	aattgctccg	1080
taaggcactt	ttcgacgttg	tcctggcggt	tgatcagaag	gaatacgccg	atgttgggga	1140
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<210> 27
 <211> 386
 <212> PRT
 <213> Caenorhabditis elegans

<400> 27

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Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro	
20	25 30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys	
35	40 45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu	
50	55 60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser	

65					70					75				80
Ser	Arg	Ser	Gln	Ala	Ile	Met	Glu	His	Tyr	Pro	Ile	Val	Ala	Thr
				85				90					95	
Glu	Thr	Tyr	Arg	Arg	Thr	Gly	Leu	Leu	Ser	Ile	Lys	Ser	Leu	Lys
			100				105					110		
Gln	Ile	Tyr	Lys	Cys	Gly	Lys	Asp	Asn	Leu	Arg	Asn	Arg	Leu	Arg
		115					120				125			
Ala	Ile	Val	Ser	Lys	Arg	Leu	Thr	Pro	Ala	Gln	Val	Glu	Ala	Tyr
	130					135					140			
Trp	His	Trp	Glu	Phe	Tyr	Gly	Phe	Ile	Arg	Tyr	Tyr	Arg	Asp	Tyr
	145				150					155				160
Gln	Arg	Trp	Glu	Ala	Asp	Leu	Leu	Lys	Asp	Leu	Asp	Val	Val	Leu
			165					170					175	
Leu	Glu	Ala	Arg	Arg	Ala	Ser	Lys	Asn	Met	Glu	Lys	Val	Asp	Ser
		180						185					190	
Glu	Leu	Met	Glu	Pro	Met	Glu	Pro	Met	Asp	Ser	Thr	Met	Asp	Glu
		195					200					205		
Cys	Val	Glu	Glu	Glu	Pro	Tyr	Glu	Glu	Thr	Gly	Ser	Asn	Trp	Ser
	210					215					220			
Pro	Ala	Pro	Glu	Pro	Ser	Gln	Ser	Lys	Ser	Gln	Ser	Pro	Glu	Ala
	225				230					235				240
Tyr	Pro	Gln	Ala	Tyr	Leu	Leu	Pro	Glu	Ala	Asp	Glu	Val	Tyr	Asn
			245						250					255
Asp	Asp	Phe	Tyr	Gln	Glu	Glu	His	Glu	Ser	Ala	Ser	Asn	Ala	Met
		260						265					270	
Arg	Ile	Ala	Phe	Ser	Gln	Gln	Tyr	Gly	Gly	Gly	Gly	Ser	Pro	Ala
	275						280					285		
Gln	Lys	Pro	Val	Thr	Phe	Ser	Ala	Gln	Pro	Ala	Pro	Ala	Pro	Val
	290					295					300			
Glu	Ala	Pro	Ser	Pro	Val	Val	Glu	Asn	Val	Ser	Ser	Ser	Ser	Phe
	305				310					315				320
Pro	Lys	Pro	Pro	Ala	Met	Ile	Asn	Asn	Phe	Gly	Glu	Glu	Met	Asn
				325					330					335
Ile	Thr	Tyr	Gln	Ala	Ile	Arg	Ile	Ala	Arg	Glu	Gln	Pro	Glu	Arg
		340						345					350	
Lys	Leu	Leu	Arg	Lys	Ala	Leu	Phe	Asp	Val	Val	Leu	Ala	Phe	Asp
		355					360					365		
Lys	Glu	Tyr	Ala	Asp	Val	Gly	Asp	Leu	Tyr	Arg	Asp	Leu	Ala	Gln
	370					375					380			
Asn	Ser													
	385													

<210> 28

<211> 1276

<212> DNA

<213> Caenorhabditis elegans

<400> 28

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gtacttctcg	acggaaaagt	acatcgact	gagcaaagat	gagaaattca	aatttgatga	180
ttacgatgtg	aatgatgaga	cgctgaaaaa	agtgggtgctc	aacgagattg	gcaagtgtccc	240
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atgcggaaaag	gacaatctcc	gaaaccggct	tcgcgtggca	attgtaagca	agcggcttac	420
accggcccaa	gtagaggcct	atatgtggcg	ctgagagttt	tacggcttta	ttcgctacta	480
tcgagactat	acacaacgct	gggaggccga	cttggtgaaa	gatttgacg	tggtgctcgg	540
gctcgaggct	cggcgagcat	cgaaaaatat	ggaaaaggtg	gattctgggg	agctcatgga	600


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aaaaaaaaa aaaaaa 1276

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<210> 29
 <211> 146
 <212> PRT
 <213> Caenorhabditis elegans

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<400> 29
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20          25          30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
35          40          45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
50          55          60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
65          70          75          80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
85          90          95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
100         105         110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115         120         125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130         135         140
Trp Arg
145

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<210> 30
 <211> 1276
 <212> DNA
 <213> Caenorhabditis elegans

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gcccattggg cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
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tcagccggcg ccggcgccag ttagagaggg cccaagccca gttgtggaga atgttagttc 960
atcgagtttc accccgaagc ccccgccat gatcaacaat tttggtgagg agatgaacca 1020
aataacatac caagcgatcc gtattgcccg agagcagccg gaacgtctga aattgctccg 1080
taaggcactt ttcgacgttg tcctggcggt tgatcagaag gaatacgccg atgttgggga 1140
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<210> 31

<211> 386

<212> PRT

<213> Caenorhabditis elegans

<400> 31

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20      25      30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
35      40      45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
50      55      60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
65      70      75      80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
85      90      95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Ser Ile Lys Ser Leu Lys
100     105     110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115     120     125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130     135     140
Trp Arg Trp Lys Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
145     150     155     160
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
165     170     175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
180     185     190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
195     200     205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
210     215     220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
225     230     235     240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
245     250     255
Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
260     265     270
Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
275     280     285
Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
290     295     300
Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Ser Phe Thr
305     310     315     320
Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
325     330     335

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Ile Thr Tyr Gln Ala Ile Arg Ile Ala Arg Glu Gln Pro Glu Arg Leu
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 Lys Leu Leu Arg Lys Ala Leu Phe Asp Val Val Leu Ala Phe Asp Gln
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 Lys Glu Tyr Ala Asp Val Gly Asp Leu Tyr Arg Asp Leu Ala Gln Lys
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 Asn Ser
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<210> 32
 <211> 1276
 <212> DNA
 <213> Caenorhabditis elegans

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 ttacgatgtg aatgatgaga cgctgaaaaa agtgggtgtc aacgagattg gcaagtgtccc 240
 ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
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 aataacatac caagcgatcc gtattgccc agagcagccg gaacgtctga aattgctccg 1080
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<210> 33
 <211> 386
 <212> PRT
 <213> Caenorhabditis elegans

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 Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35 40 45
 Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50 55 60
 Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65 70 75 80
 Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85 90 95
 Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
 100 105 110

Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
 115 120 125
 Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
 130 135 140
 Trp Arg Trp Glu Phe Tyr Gly Phe Ile Cys Tyr Tyr Arg Asp Tyr Thr
 145 150 155 160
 Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
 165 170 175
 Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
 180 185 190
 Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
 195 200 205
 Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
 210 215 220
 Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
 225 230 235 240
 Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
 245 250 255
 Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
 260 265 270
 Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Ser Pro Ala Val
 275 280 285
 Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
 290 295 300
 Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Ser Phe Thr
 305 310 315 320
 Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
 325 330 335
 Ile Thr Tyr Gln Ala Ile Arg Ile Ala Arg Glu Gln Pro Glu Arg Leu
 340 345 350
 Lys Leu Leu Arg Lys Ala Leu Phe Asp Val Val Leu Ala Phe Asp Gln
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 Lys Glu Tyr Ala Asp Val Gly Asp Leu Tyr Arg Asp Leu Ala Gln Lys
 370 375 380
 Asn Ser
 385

<210> 34

<211> 1276

<212> DNA

<213> Caenorhabditis elegans

<400> 34

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gtacttctcg	acggaaaagt	acatcgact	gagcaaagat	gagaaattca	aatttgatga	180
ttacgatgtg	aatgatgaga	cgctgaaaaa	agtgggtgctc	aacgagattg	gcaagtgcc	240
ggatattttg	agctcgcgga	gccaggcagc	cattatggag	cactatccga	ttgttgcaac	300
tgaaacgtac	aggaggacag	ggttgctgtt	gtctatcaaa	tcgctgaaac	aaatctacaa	360
atgcggaaag	gacaatctcc	gaaaccggct	tcgctgggca	attgtaagca	agcggcttac	420
accggcccaa	gtagaggcct	atatgtggcg	ctgggagttt	tacggcttta	ttcgctacta	480
tcgagactat	acacaacgct	aggaggccga	cttggtgaaa	gatttggacg	tggtgctcgg	540
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gccatggag	cccatggatt	ctacaatgga	tgagatgtgc	gtcgaggagg	agccctacga	660
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cccagaagcc	aagtaccctc	aagcctacct	actacctgag	gcggacgaag	tctacaatcc	780
tgacgatttc	tatcaagagg	aacatgaatc	cgcacaaac	gccatgtatc	ggatcgcttt	840
ctcacagcag	tacgggtggcg	gcgggtcccc	agccgtgcag	aagcccgta	cttttagtgc	900

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tcagccggcg cgggcgccag ttagagagggc cccaagccca gttgtggaga atgttagttc 960
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<210> 35

<211> 162

<212> PRT

<213> *Caenorhabditis elegans*

<400> 35

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 20          25          30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35          40          45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50          55          60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65          70          75          80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85          90          95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
100          105          110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115          120          125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130          135          140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
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<210> 36

<211> 1276

<212> DNA

<213> *Caenorhabditis elegans*

<400> 36

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gctcgaggct cggcgagcat cgaaaaatat ggaaaagggt gattctgggg agctcatgga 600
gcccattgag cccattgatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
ggagacaggg tccaattgga cgcattccgc gccggaacca tcccaatcca aatcccagtc 720
cccagaagcc aagtaccctc aagcctacct actacctgag gcggacgaag tctacaatcc 780
tgacgatttc tatcaagagg aacatgaatc cgcattcaaac gccatgtatc ggatcgcttt 840
ctcacagcag tacgggtggcg gcgggtcccc agccgtgcag aagcccgtca ctttttagtgc 900

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1276

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<210> 37

<211> 386

<212> PRT

<213> Caenorhabditis elegans

<400> 37

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 20      25      30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35      40      45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50      55      60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65      70      75      80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85      90      95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
 100     105     110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
 115     120     125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
 130     135     140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
 145     150     155     160
Gln Arg Trp Lys Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
 165     170     175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
 180     185     190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
 195     200     205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
 210     215     220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
 225     230     235     240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
 245     250     255
Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
 260     265     270
Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
 275     280     285
Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
 290     295     300
Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Ser Phe Thr
 305     310     315     320
Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
 325     330     335
Ile Thr Tyr Gln Ala Ile Arg Ile Ala Arg Glu Gln Pro Glu Arg Leu
 340     345     350
Lys Leu Leu Arg Lys Ala Leu Phe Asp Val Val Leu Ala Phe Asp Gln

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355 360 365
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 370 375 380
 Asn Ser
 385

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 <211> 1275
 <212> DNA
 <213> *Caenorhabditis elegans*

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<210> 39
 <211> 325
 <212> PRT
 <213> *Caenorhabditis elegans*

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 20 25 30
 Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35 40 45
 Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50 55 60
 Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65 70 75 80
 Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85 90 95
 Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
 100 105 110
 Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
 115 120 125
 Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met

130		135		140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr				
145		150		155
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly				
	165		170	
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Trp Ile Leu Gly				
	180		185	
Ser Ser Trp Ser Pro Trp Ser Pro Trp Ile Leu Gln Trp Met Arg Cys				
	195		200	
Ala Ser Arg Arg Ser Pro Thr Arg Arg Gln Gly Pro Ile Gly Ala Ile				
	210		215	
Arg Arg Arg Asn His Pro Asn Pro Asn Pro Ser Pro Gln Lys Pro Ser				
225		230		235
Thr Leu Lys Pro Thr Tyr Tyr Leu Arg Arg Thr Lys Ser Thr Ile Leu				
	245		250	
Thr Ile Ser Ile Lys Arg Asn Met Asn Pro His Gln Thr Pro Cys Ile				
	260		265	
Gly Ser Leu Ser His Ser Ser Thr Val Ala Ala Gly Pro Gln Pro Cys				
	275		280	
Arg Ser Pro Ser Leu Leu Val Leu Ser Arg Arg Arg Arg Gln Leu Glu				
	290		295	
Arg Pro Gln Ala Gln Leu Trp Arg Met Leu Val His Arg Val Ser Pro				
305		310		315
Arg Ser Pro Arg Pro				
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<210> 40
 <211> 1276
 <212> DNA
 <213> Caenorhabditis elegans

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 <211> 278
 <212> PRT

<213> Caenorhabditis elegans

<400> 41

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Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
35 40 45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
50 55 60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
65 70 75 80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
85 90 95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
100 105 110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115 120 125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130 135 140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
145 150 155 160
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
165 170 175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
180 185 190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
195 200 205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
210 215 220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
225 230 235 240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
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Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
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Arg Ile Ala Phe Ser Gln
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<210> 42

<211> 1276

<212> DNA

<213> Caenorhabditis elegans

<400> 42

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attctacaag ctgccaccgc ccgtgccact tccaccactc ccgccaccgc atccaaccgc 120
gtacttctcg acggaaaagt acatcgcaact gagcaaagat gagaaattca aatttgatga 180
ttacgatgtg aatgatgaga cgctgaaaaa agtggtgctc aacgagattg gcaagtgcc 240
ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
tgaaacgtac aggaggacag ggttgctgtt gtctatcaaa tcgctgaaac aaatctacaa 360
atgcggaaaag gacaatctcc gaaaccggct tcgcgtggca attgtaagca agcggcttac 420
accggcccaa gtagaggcct atatgtggcg ctgggagttt tacggcttta ttcgctacta 480
tcgagactat acacaacgct gggaggccga cttgttgaaa gatttggacg tgggtgctcg 540
gctcgaggct cggcgagcat cgaaaaatat ggaaaagggtg gattctgggg agctcatgga 600
gcccattggag cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
ggagacaggg tccaattgga gcgatccggc gccggaacca tccaatcca aatcccagtc 720

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cccagaagcc aagtaccctc aagcctacct actacctgag gcggacgaag tctacaatcc 780
tgacgatttc tatcaagagg aacatgaatc cgcacaaac gccatgtatc ggatcgcttt 840
ctcacagcag tacggtggcg gcgggtcccc agccgtgcag aagcccgta ctttttagtgc 900
tcagccggcg ccggcgccag tttgagaggc cccaagccca gttgtggaga atgttagttc 960
atcgagtttc accccgaagc ccccgccat gatcaacaat tttggtgagg agatgaacca 1020
aataacatac caagcgatcc gtattgcccg agagcagccg gaacgtctga aattgctccg 1080
taaggcactt ttcgacgttg tcctggcggt tgatcagaag gaatacgccg atgttgggga 1140
tttgtacagg gatttggcgc aaaagaattc gtgataattt ttttttgagt tttttaattt 1200
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aaaaaaaaa aaaaaa 1276

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<210> 43

<211> 303

<212> PRT

<213> Caenorhabditis elegans

<400> 43

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Met Ser Lys Ile Lys Thr His Ser Thr Gly Ser Lys Arg Thr Val Pro
 1          5          10          15
Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
 20          25          30
Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35          40          45
Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50          55          60
Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65          70          75          80
Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85          90          95
Glu Thr Tyr Arg Arg Thr Gly Leu Leu Ser Ile Lys Ser Leu Lys
100          105          110
Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
115          120          125
Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
130          135          140
Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
145          150          155          160
Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
165          170          175
Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
180          185          190
Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
195          200          205
Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
210          215          220
Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
225          230          235          240
Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
245          250          255
Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
260          265          270
Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
275          280          285
Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val
290          295          300

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<210> 44

<211> 1276

<212> DNA
 <213> Caenorhabditis elegans

<400> 44
 agaatctgcc aaaatgtcaa agataaagac acattccact ggctcaaaac ggacggtacc 60
 attctacaag ctgccaccgc ccgtgccact tccaccactc ccgccaccgc atccaaccgc 120
 gtactttctcg acggaaaagt acatcgccact gagcaaagat gagaaattca aatttgatga 180
 ttacgatgtg aatgatgaga cgctgaaaaa agtggtgctc aacgagattg gcaagtgtcc 240
 ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
 tgaaacgtac aggaggacag ggttgctgtt gtctatcaaa tcgctgaaac aaatctacaa 360
 atgcggaaag gacaatctcc gaaaccggct tcgcgtggca attgtaagca agcggcttac 420
 accggcccaa gttagggcct atatgtggcg ctgggagttt tacggcttta ttcgtacta 480
 tcgagactat acacaacgct gggaggccga cttgttgaaa gatttgacg tgggtgctcg 540
 gctcgaggct cggcgagcat cgaaaaatat ggaaaagggtg gattctgggg agctcatgga 600
 gcccatggag cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
 ggagacaggg tccaattgga gcgatccggc gccggaacca tccaatcca aatcccagtc 720
 cccagaagcc aagtaccctc aagcctacct actacctgag gcggacgaag tctacaatcc 780
 tgacgatttc tatcaagagg aacatgaatc cgcatacaac gccatgtatc ggatcgcttt 840
 ctcacagcag tacgggtggcg gcgggtcccc agcctgtcag aagcccgtca ctttttagtgc 900
 tcagccggcg ccggcgccag ttagagaggc cccaagccca gttgtggaga atgttagttc 960
 atcgagtttc accccgaagc ccccgcccat gatcaacaat tttggtgagg agatgaacca 1020
 aataacatac taagcgatcc gtattgcccg agagcagccg gaacgtctga aattgctccg 1080
 taaggcactt ttcgacgttg tcctggcggt tgatcagaag gaatacgccg atgttgggga 1140
 tttgtacagg gatttggcgc aaaagaattc gtgataattt ttttttgagt tttttaattt 1200
 ttaatttatt tcaatttttg ttacatgttc caatataata aacagggtgct tgtttaaaaa 1260
 aaaaaaaaaa aaaaaa 1276

<210> 45
 <211> 339
 <212> PRT
 <213> Caenorhabditis elegans

<400> 45
 Met Ser Lys Ile Lys Thr His Ser Thr Gly Ser Lys Arg Thr Val Pro
 1 5 10 15
 Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
 20 25 30
 Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35 40 45
 Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50 55 60
 Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65 70 75 80
 Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85 90 95
 Glu Thr Tyr Arg Arg Thr Gly Leu Leu Ser Ile Lys Ser Leu Lys
 100 105 110
 Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
 115 120 125
 Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
 130 135 140
 Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
 145 150 155 160
 Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
 165 170 175
 Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
 180 185 190
 Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
 195 200 205

Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
 210 215 220
 Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
 225 230 235 240
 Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
 245 250 255
 Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
 260 265 270
 Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
 275 280 285
 Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
 290 295 300
 Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Phe Thr
 305 310 315 320
 Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
 325 330 335
 Ile Thr Tyr

<210> 46
 <211> 1276
 <212> DNA
 <213> Caenorhabditis elegans

<400> 46
 agaatctgcc aaaatgtcaa agataaagac acattccact ggctcaaaac ggacggtacc 60
 attctacaag ctgccaccgc ccgtgccact tccaccactc ccgccaccgc atccaaccgc 120
 gtacttctcg acggaagagt acatcgcaact gagcaaagat gagaaattca aatttgatga 180
 ttacgatgtg aatgatgaga cgctgaaaaa agtgggtgctc aacgagattg gcaagtgcc 240
 ggatatttgg agctcgcgga gccaggcagc cattatggag cactatccga ttgttgcaac 300
 tgaaacgtac agggaggacag gggttgtgtt gtctatcaaa tcgctgaaac aaatctacaa 360
 atgcggaaaag gacaatctcc gaaaccggct tcgctgggca attgtaagca agcggcttac 420
 accggcccaa gtagaggcct atatgtggcg ctgggagttt tacggcttta ttcgctacta 480
 tcgagactat acacaacgct gggaggccga cttgttgaaa gatttgagcg tgggtgctcg 540
 gtcgagggct cggcgagcat cgaaaaatat ggaaaagggtg gattctgggg agctcatgga 600
 gcccatggag cccatggatt ctacaatgga tgagatgtgc gtcgaggagg agccctacga 660
 ggagacaggg tccaattgga gcgatccggc gccggaacca tccaatcca aatcccagtc 720
 ccagaagcc aagtaccctc aagcctacct actacctgag gcggacgaag tctacaatcc 780
 tgacgatttc tatcaagagg aacatgaatc cgcatacaac gccatgtatc ggatcgcttt 840
 ctacacagcag tacggtggcg gcgggtcccc agccgtgcag aagcccgta ctttttagtgc 900
 tcagccggcg ccggcgccag ttagagaggc cccaagccca gttgtggaga atgttagttc 960
 atcgagtttc accccgaagc ccccgcccat gatcaacaat tttggtgagg agatgaacca 1020
 aataacatac caagcgatcc gtattgcccg aaagcagccg gaacgtctga aattgctccg 1080
 taaggcactt ttcgacgttg tcctggcggt tgatcagaag gaatacgccg atgttgggga 1140
 tttgtacagg gatttggcgc aaaagaattc gtgataattt ttttttgagt tttttaattt 1200
 ttaatttatt tcaatttttg ttacatgttc caatataata aacaggtgct tgtttaaaaa 1260
 aaaaaaaaaa aaaaaa 1276

<210> 47
 <211> 386
 <212> PRT
 <213> Caenorhabditis elegans

<400> 47
 Met Ser Lys Ile Lys Thr His Ser Thr Gly Ser Lys Arg Thr Val Pro
 1 5 10 15
 Phe Tyr Lys Leu Pro Pro Pro Val Pro Leu Pro Pro Leu Pro Pro Pro
 20 25 30

Asp Pro Thr Arg Tyr Phe Ser Thr Glu Lys Tyr Ile Ala Leu Ser Lys
 35 40 45
 Asp Glu Lys Phe Lys Phe Asp Asp Tyr Asp Val Asn Asp Glu Thr Leu
 50 55 60
 Lys Lys Val Val Leu Asn Glu Ile Gly Lys Cys Pro Asp Ile Trp Ser
 65 70 75 80
 Ser Arg Ser Gln Ala Ala Ile Met Glu His Tyr Pro Ile Val Ala Thr
 85 90 95
 Glu Thr Tyr Arg Arg Thr Gly Leu Leu Leu Ser Ile Lys Ser Leu Lys
 100 105 110
 Gln Ile Tyr Lys Cys Gly Lys Asp Asn Leu Arg Asn Arg Leu Arg Val
 115 120 125
 Ala Ile Val Ser Lys Arg Leu Thr Pro Ala Gln Val Glu Ala Tyr Met
 130 135 140
 Trp Arg Trp Glu Phe Tyr Gly Phe Ile Arg Tyr Tyr Arg Asp Tyr Thr
 145 150 155 160
 Gln Arg Trp Glu Ala Asp Leu Leu Lys Asp Leu Asp Val Val Leu Gly
 165 170 175
 Leu Glu Ala Arg Arg Ala Ser Lys Asn Met Glu Lys Val Asp Ser Gly
 180 185 190
 Glu Leu Met Glu Pro Met Glu Pro Met Asp Ser Thr Met Asp Glu Met
 195 200 205
 Cys Val Glu Glu Glu Pro Tyr Glu Glu Thr Gly Ser Asn Trp Ser Asp
 210 215 220
 Pro Ala Pro Glu Pro Ser Gln Ser Lys Ser Gln Ser Pro Glu Ala Lys
 225 230 235 240
 Tyr Pro Gln Ala Tyr Leu Leu Pro Glu Ala Asp Glu Val Tyr Asn Pro
 245 250 255
 Asp Asp Phe Tyr Gln Glu Glu His Glu Ser Ala Ser Asn Ala Met Tyr
 260 265 270
 Arg Ile Ala Phe Ser Gln Gln Tyr Gly Gly Gly Gly Ser Pro Ala Val
 275 280 285
 Gln Lys Pro Val Thr Phe Ser Ala Gln Pro Ala Pro Ala Pro Val Arg
 290 295 300
 Glu Ala Pro Ser Pro Val Val Glu Asn Val Ser Ser Ser Ser Phe Thr
 305 310 315 320
 Pro Lys Pro Pro Ala Met Ile Asn Asn Phe Gly Glu Glu Met Asn Gln
 325 330 335
 Ile Thr Tyr Gln Ala Ile Arg Ile Ala Arg Lys Gln Pro Glu Arg Leu
 340 345 350
 Lys Leu Leu Arg Lys Ala Leu Phe Asp Val Val Leu Ala Phe Asp Gln
 355 360 365
 Lys Glu Tyr Ala Asp Val Gly Asp Leu Tyr Arg Asp Leu Ala Gln Lys
 370 375 380
 Asn Ser
 385

<210> 48
 <211> 1108
 <212> DNA
 <213> Caenorhabditis elegans

<400> 48
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 ccatgctatg taccgaaccg ctgaattcaa caaaactact gtccgattat tggcggaatt 120
 catcgaaaag actgggcaga atgcgacgat agtgaatatg gacagctttt tggagttctt 180
 tgcgtatttg aatcccacgg ctccaattcc aacggttcca gaaattgaaa aataattatt 240
 gctaaaatca ccgattcgtt gcattgtgtg tggaatggaa actgaatcag attccgcagt 300

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gacattaagc atcgataatg cttcaattat tctcacagcg acagtaattg gttactgtag 360
agatccaagt gatgcagtta atcaaattcg aaaggagagt cttcgagcat gcacgaaaca 420
tttcaacagt attttccatg tcatcttcga aggactgcaa atcgagaaca cctactgtgc 480
tcatcatgca aaatacagtc ttgccaatcg ttggtgcaaa gtctacacga tgattcgatc 540
ttccctgggc gagcagttca caaagttcga tgtgcgcaat tttaaatcaa tattgcaatc 600
atTTTTtggat actTTTTggtg aaattgatga cgacaaaaag gataaagaat cttctcattt 660
tgatgaatgt tttgaagaaa tggattcaga aaacgtagaa attaaaatgg agagcccaca 720
agaagaagct gcagagaaat cgaagttttc tgaaaacctg gtggaggtaa aactggaacc 780
aattgaaact catgaacttg acaaaactat atccgacttt tcttcaagtg atataattga 840
ttcgtoccaa aaactgcagc aaaatggttt tcctgaaaaa gtggagcaaa tggacaaaata 900
tagcaacaaa ttgaaagatg aagcttcaga caaaaagtat gaaaagccag gaaaaaagga 960
ctacgttgaa gaagagggat actgggcgcc gatcaccgac agcgaggatg atgaagcctg 1020
aatttattta atcaaacggt ttggaaattt tttttgtttt tgtcaataaa accatataac 1080
aataaaaaaa aaaaaaaaaa aactcgag

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<210> 49

<211> 60

<212> PRT

<213> Caenorhabditis elegans

<400> 49

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Met Asp His His Ala Met Tyr Arg Thr Ala Glu Phe Asn Lys Thr Thr
 1           5           10           15
Val Arg Leu Leu Ala Glu Phe Ile Glu Lys Thr Gly Gln Asn Ala Thr
          20           25           30
Ile Val Asn Met Asp Ser Phe Leu Glu Phe Phe Ala Tyr Leu Asn Pro
          35           40           45
Thr Ala Pro Ile Pro Thr Val Pro Glu Ile Glu Lys
 50           55           60

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<210> 50

<400> 50

000

<210> 51

<211> 60

<212> PRT

<213> Caenorhabditis elegans

<400> 51

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Arg Cys Ile Val Cys Gly Met Glu Thr Glu Ser Asp Ser Ala Val Thr
 1           5           10           15
Leu Ser Ile Asp Asn Ala Ser Ile Ile Leu Thr Ala Thr Val Ile Gly
          20           25           30
Tyr Cys Arg Asp Pro Ser Asp Ala Val Asn Gln Ile Arg Lys Glu Ser
          35           40           45
Leu Arg Ala Cys Thr Lys His Phe Asn Ser Ile Phe
 50           55           60

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<210> 52

<211> 60

<212> PRT

<213> Caenorhabditis elegans

<400> 52

Pro Cys Ile Leu Cys Glu Lys Ala Leu Leu Met Arg Glu Ser Ile Ala

1		5		10		15
Met	Thr	Asp	Asn	Glu	Ala	Val
			20			
Gly	His	Phe	Arg	Met	Ala	Thr
		35			40	
Leu	Arg	Met	Cys	Tyr	Asp	His
	50				55	

<210> 53
 <211> 60
 <212> PRT
 <213> Caenorhabditis elegans

<400> 53
Pro Cys Ile Ile Cys Gly Asn Glu Val Pro Gly His Arg Ser Ile Arg
1 5 10 15
Val Ser Asp Asp Asp Ala Ala Ile Phe Leu Thr Ala Ala Val Leu Thr
20 25 30
Asp Gln Lys Thr Ile Arg Gln Ala Lys Arg Asp Ile Leu Ser Glu Tyr
35 40 45
Leu Thr Val Cys Leu Arg His Ser Leu His Tyr Tyr
50 55 60

<210> 54
 <211> 60
 <212> PRT
 <213> Caenorhabditis elegans

<400> 54
Pro Cys Leu Val Cys Asn Gln Gln Met Glu Met Thr Lys Val Arg Ser
1 5 10 15
Val Asn Asn Thr Asp Ala Tyr Ile Met Ile Tyr Val Cys Val Met Asn
20 25 30
Asp Lys Tyr Asp Met Asp Lys Ala Lys Glu Leu Ala Arg Met Gln Arg
35 40 45
Phe Lys Cys Cys Val Ser His Leu Asp Glu Leu Tyr
50 55 60

<210> 55
 <211> 177
 <212> PRT
 <213> Caenorhabditis elegans

<400> 55
Met Leu Ser Ile Lys Gln Glu Leu Leu Asp Ala Pro Pro Pro Pro Pro
1 5 10 15
Ala Ala Thr Pro Leu Pro Pro Ile Thr His Arg Ile Ser Leu Ser Gly
20 25 30
Tyr Arg Asn Ile His Ala Lys Ser Phe Leu Lys Thr Met Thr Met Asp
35 40 45
Leu Cys Val Arg Arg Val Val Leu Ser Leu Leu Glu Asn Arg Arg Ala
50 55 60
Leu Trp Ile Arg Val His Lys Ser Pro Lys Ala Asp Trp Glu Val Leu
65 70 75 80
Gly Val Glu Val Phe Glu Arg Thr Gly Lys Ala Val Ser Val Lys Gln
85 90 95

Leu Gln Arg Ile Phe Leu Thr Ala Arg Asp Trp Leu Arg Arg Asn Leu
 100 105 110
 Gln Leu Tyr Ile Ile Gln Arg Lys Met Asp Lys Leu Thr Leu Asp Ala
 115 120 125
 Glu Leu Ala Lys Trp Glu Leu Tyr Pro His Phe Ile Tyr Tyr Arg Gln
 130 135 140
 Tyr Leu Gly Gln Phe Glu Ala His Leu Arg Gly Glu Glu Trp Thr Gly
 145 150 155 160
 Glu Leu Tyr Asp Asp Asp Ile Ile Cys Asp Gly Ile Met Gln Val Glu
 165 170 175
 Val

<210> 56
 <211> 75
 <212> PRT
 <213> Caenorhabditis elegans

<400> 56
 Glu Asp Ser Val Ser Tyr Thr Lys Ile Thr Glu Asp Leu Leu Gln Lys
 1 5 10 15
 Lys Pro His Lys His Arg Phe Ile Arg Gln Ala Leu Phe Lys Thr Ile
 20 25 30
 Met Ala Leu Asp Asp Asp Glu Val Glu Tyr Thr Glu Leu Ala Asp Leu
 35 40 45
 Phe Gly Asp Ile Ala Glu Gln Ser Asn Val Val Arg Arg Leu Arg Leu
 50 55 60
 Gln Arg Gln Gln Gln Arg Gly Arg Gly Glu Gln
 65 70 75

<210> 57
 <211> 178
 <212> PRT
 <213> Caenorhabditis elegans

<400> 57
 Met Ser Leu Ile Lys Gln Glu His Met His Pro Pro Pro Arg Ala Ile
 1 5 10 15
 Thr Pro Leu Pro Pro Ala Thr His Gln Ile Thr Leu Glu Glu Tyr Lys
 20 25 30
 Glu Arg Glu Lys Lys Asp Tyr Tyr Arg Asp Ala Thr Lys Asp Ala Ser
 35 40 45
 Val Lys Lys Val Val Leu Ser Leu Leu Lys Asp His Pro Gly Met Trp
 50 55 60
 Gln Asn Gly Asn Arg Phe Gln Pro Glu Lys Trp Arg Ala Leu Gly Val
 65 70 75 80
 Asp Val Tyr Gln Arg Thr Gly Gln Ile Val Arg Val Asn Asp Met Arg
 85 90 95
 Lys Met Leu Val Met Gly Lys Ser Val Leu Lys Lys Lys Ile Ala Ile
 100 105 110
 Cys Ile Arg Asp Lys Lys Leu Asp Arg Ala Ala Thr Glu Lys Asp Leu
 115 120 125
 Trp Tyr Trp Glu Tyr Tyr Arg His Phe Leu Tyr Tyr Arg Glu Thr Leu
 130 135 140
 Gly Gln Phe Glu Ala Asn Leu Arg Gly Glu Glu Trp Thr Gly Glu Asp
 145 150 155 160
 Gln Ile Gln Asp Glu Asp Asp Ile Ile Tyr Asp Gly Met Leu Asp Gly

165 170 175
 Asp Leu

 <210> 58
 <211> 73
 <212> PRT
 <213> *Caenorhabditis elegans*

 <400> 58
 Arg Ser Ala Gln His Ile Ala Glu Gln Ala Lys Arg Leu Phe Leu Gln
 1 5 10 15
 Tyr Pro Glu Lys Ser Asn Leu Ile Arg Glu Thr Met Phe Lys Thr Ile
 20 25 30
 Leu Ala Phe Asp Asp Pro Ser Ala Asp Tyr Gln Asn Val Gly Glu Ile
 35 40 45
 Phe Asp Asp Leu Ala Ala Gln Glu Ala Ala Lys Lys Arg Lys Arg Ala
 50 55 60
 Glu Asn Arg Ala Gln Arg Glu Gln Gln
 65 70

<210> 59
 <211> 179
 <212> PRT
 <213> *Caenorhabditis elegans*

 <400> 59
 Met Ser Leu Ile Lys Gln Glu His Met Asn Pro Pro Pro Arg Thr Ile
 1 5 10 15
 Thr Pro Leu Pro Pro Pro Thr His Gln Ile Thr Ile Glu Glu Tyr Lys
 20 25 30
 Glu Arg Val Lys Arg Asp Tyr Tyr Arg Asn Ala Thr Lys Asp Thr Ser
 35 40 45
 Leu Lys Lys Val Val Leu Ser Leu Ile Lys Asp Arg Lys Ala Met Trp
 50 55 60
 Ala Pro Ala Ala Lys Pro Ser Glu Asp Lys Trp Gln Lys Leu Gly Ala
 65 70 75 80
 Glu Val Phe Ser Arg Thr Gly Lys Val Val Ser Val Thr Gln Leu Arg
 85 90 95
 Arg Met Leu Val Ser Ser Lys His Val Leu Lys Thr Lys Met Ser His
 100 105 110
 Cys Ile Lys Val Lys Lys Met Asp Arg Val Ser Thr Glu Ala Tyr Leu
 115 120 125
 Trp Asn Trp Glu Phe Tyr Arg His Phe Leu Tyr Tyr Arg Glu Met Leu
 130 135 140
 Asp Arg Phe Glu Ala Asn Leu Arg Gly Lys Gln Trp Thr Gly Glu Asp
 145 150 155 160
 Gln Pro Thr Asp Asp Asp Asp Asp Ile Ile Cys Asp Gly Ile Phe Glu
 165 170 175
 Val Glu Met

<210> 60
 <211> 70
 <212> PRT
 <213> *Caenorhabditis elegans*

<400> 60

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Ser Thr Ala Glu Gln Ile Gly Glu Glu Ile Asp Arg Leu Ile Gln Leu
1          5          10          15
Tyr Pro Gln Arg Glu Met Leu Ile Arg Gln Ala Phe Phe Lys Thr Ile
          20          25          30
Phe Ala Leu Glu Asp Glu Thr Val Glu Phe Ser Asn Leu Gly Asp Leu
          35          40          45
Phe Glu Asp Leu Ala Glu Gln Glu Asn Phe Lys Arg Arg Arg Arg Ser
          50          55          60
Arg Ala Gln Arg Leu Glu
65          70

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<210> 61

<211> 187

<212> PRT

<213> Caenorhabditis elegans

<400> 61

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Met Leu Asn Ile Lys Gln Glu Gly Val Val Ala Asp Ala Pro Arg Ala
1          5          10          15
Leu Thr Pro Ile Pro Pro Phe Ile His Val Ser Met Glu Glu Tyr
          20          25          30
Met Gly Met Glu Leu Asn Ser Val Tyr Glu Glu Ala Thr Lys Asp Ser
          35          40          45
Ala Leu Lys Lys Val Val Leu Asp Leu Leu Lys Asp Arg Pro Gly Met
          50          55          60
Trp Gln Asn Gly Asn Arg Phe Gln Leu Glu Asn Trp Arg Glu Leu Gly
65          70          75          80
Val Asp Val Tyr Gln Arg Thr Gly Gln Ile Val Arg Ala Glu Leu Gly
          85          90          95
Glu Val Ser Val Asn Asp Met His Arg Met Phe Val Val Gly Lys Ala
          100          105          110
Val Leu Lys Gln Lys Ile Thr Val Cys Ile Arg Tyr Lys Lys Leu Asp
          115          120          125
Arg Ala Ala Thr Glu Ala Asp Leu Gln Asn Trp Glu Phe Tyr Arg His
          130          135          140
Phe Arg Tyr Tyr Arg Glu Thr Leu Gly Gln Phe Glu Ala Asn Leu Arg
          145          150          155          160
Gly Glu Gln Trp Thr Gly Glu Asp Gln Pro Ala Asp Asp Asp Asp Asp
          165          170          175
Ile Ile Tyr Asp Gly Ile Phe Glu Val Glu Met
          180          185

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<210> 62

<211> 69

<212> PRT

<213> Caenorhabditis elegans

<400> 62

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Ser Thr Ala Glu Gln Ile Gly Glu Glu Ile Asp Arg Arg Leu Ile Gln Leu
1          5          10          15
Tyr Pro Gln Arg Glu Met Leu Ile Arg Gln Ala Phe Phe Lys Thr Ile
          20          25          30
Phe Ala Leu Glu Asp Glu Thr Val Glu Phe Ser Asn Leu Gly Asp Leu
          35          40          45
Phe Glu Asp Leu Ala Glu Gln Glu Asn Phe Lys Arg Arg Arg Arg Ser
          50          55          60

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Ala Gln Arg Leu Glu
65

<210> 63
<211> 186
<212> PRT
<213> Caenorhabditis elegans

<400> 63
Met Met Asn Pro Lys Glu Glu Pro Arg Pro Phe Ser Ile Val Pro Leu
1 5 10 15
Pro Arg Pro Pro Arg Pro Thr Thr Pro Leu Pro Pro Ile Ser His Cys
20 25 30
Ile Thr Met Ala Asp Tyr Leu Leu Leu Glu Asn Thr Lys Phe His Lys
35 40 45
Thr Ala Thr Arg Ala Pro Lys Ile Lys Lys Val Leu Leu Ser Leu Leu
50 55 60
Lys Asp Arg Pro Glu Ile Trp Asp Arg Lys Ala Gln Phe Ser Ala Lys
65 70 75 80
Asn Trp Gln Asn Leu Gly Val Glu Val Tyr Glu Arg Thr Gly Tyr Ile
85 90 95
Val Arg Ser Asn Asp Leu His Lys Met Leu Arg Thr Ala Lys Val Val
100 105 110
Leu Lys Asn Lys Leu Arg Thr Cys Ile Gly Ile Lys Lys Leu Asp Arg
115 120 125
Ala Ala Thr Glu Thr Glu Leu Trp Lys Trp Glu Tyr Tyr Pro His Phe
130 135 140
Ile Tyr Tyr Arg Glu Thr Leu Gly His Phe Glu Ala Asn Leu Arg Gly
145 150 155 160
Glu Pro Trp Asp Gly Glu Ala His Ile Asp Asp Asp Asp Asp Asp Ile
165 170 175
Ile Tyr Glu Gly Tyr Trp Glu Ala Asp Lys
180 185

<210> 64
<211> 70
<212> PRT
<213> Caenorhabditis elegans

<400> 64
Asn Ser Ala Gln His Ile Gly Glu Gln Val His Arg Leu Phe Ala Gln
1 5 10 15
Tyr Pro Glu Arg Ser Lys Leu Phe Arg Glu Thr Leu Phe Lys Thr Ile
20 25 30
Leu Ala Leu Glu Glu Pro Glu Tyr Glu His Ala Ala Glu Val Phe Thr
35 40 45
Asp Leu Ala Gln Ser Glu Thr Ala Lys Arg Arg Arg Arg Ser Glu Ala
50 55 60
Thr Trp Gln Asn Gly Gln
65 70

<210> 65
<211> 186
<212> PRT
<213> Caenorhabditis elegans

<400> 65

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Met Val Ser Ala Thr Arg Val Pro Arg Arg Ser Ser Thr Thr Thr Ser
1          5          10          15
Ala Thr Ala Gln Gln Arg Thr Pro Ser Pro Leu Met Pro Ala Ser Phe
20          25          30
Pro Ile Thr Met Asp Glu Tyr Leu Glu Lys Glu Asn Arg Glu Phe Val
35          40          45
Val Asn Ala Ser Lys Asp Ile Ala Met Lys Lys Leu Ala Leu Thr Leu
50          55          60
Leu Glu Leu Tyr Pro Glu Met Trp Lys Pro Gly Gly Pro Met Val Ala
65          70          75          80
Lys Lys Trp Gln Ala Phe Gly Ala Glu Met Tyr Arg Arg Thr Gly Lys
85          90          95
Ile Tyr Arg Cys Lys Asp Leu His Ser Val Phe Thr Leu Thr Lys Ser
100         105         110
Ser Ile Lys Arg Lys Leu Arg Thr Cys Ile Leu Ile Lys Arg Met His
115         120         125
Arg Ser Lys Thr Asp Glu Glu Met Trp Lys Tyr Glu Leu Tyr Pro Tyr
130         135         140
Phe Gln Tyr Tyr Arg Gln Ser Ile Gly Gln Phe Glu Ala Lys Leu Arg
145         150         155         160
Asp Glu Pro Trp Thr Gly Glu Asp Gln Ala Gln Glu Asp Asp Asp Ile
165         170         175
Leu Phe Asp Gly Leu Phe Glu Val Glu Asn
180         185

```

<210> 66

<211> 66

<212> PRT

<213> Caenorhabditis elegans

<400> 66

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Lys Thr Ala Asp Asn Ile Gly Asp Gln Val Lys Gln Leu Phe Val Asp
1          5          10          15
His Pro Asp Arg Ala Asn Phe Phe Arg Glu Val Leu Phe Lys Thr Val
20          25          30
Leu Glu Leu Arg Asp Pro Ala Phe Thr Asn Ala Gly Val Phe Phe Asp
35          40          45
Glu Met Ser Ser Leu Glu Ser Ala Lys Arg Arg Arg Arg Ser Glu Met
50          55          60
Asn Lys
65

```

<210> 67

<211> 178

<212> PRT

<213> Caenorhabditis elegans

<400> 67

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Met Ser Arg Ile Lys Gln Glu Gln Val Asn Pro Pro Pro Pro Pro Arg
1          5          10          15
Ala Ile Thr Pro Leu Pro Pro Ala Thr His Arg Ile Thr Met Asp Glu
20          25          30
Tyr Lys Lys Arg Glu Lys Lys Asp Tyr Tyr Arg Asp Ala Thr Lys Asp
35          40          45
Ala Ser Val Lys Lys Val Val Leu Ser Leu Leu Lys Asp Tyr Pro Asp
50          55          60

```

Met Trp Gln Asn Gly Asn Arg Phe Gln Thr Arg Lys Trp Arg Ala Leu
65 70 75 80
Gly Val Glu Val Tyr Gln Arg Thr Gly Gln Ile Val Gly Val Asp Asp
85 90 95
Met Arg Lys Met Phe Met Ser Gly Lys Thr Val Leu Lys Gln Lys Ile
100 105 110
Thr Phe Cys Ile Arg Asn Met Lys Met Asp Arg Ala Ala Thr Glu Ala
115 120 125
Asp Leu Gln Asn Trp Glu Tyr Tyr Arg His Phe Leu Tyr Tyr Arg Gln
130 135 140
Thr Leu Gly Lys Phe Glu Ala Lys Leu Arg Gly Glu Gln Trp Ile Gly
145 150 155 160
Glu Asp Gln Val Glu Asp Asp Asp Glu Asp Asp Val Ile Phe Asp Gly
165 170 175
Glu Ser

<210> 68

<211> 410

<212> PRT

<213> Caenorhabditis elegans

<400> 68

Met Gly Thr Cys Trp Gly Asp Ile Ser Glu Asn Val Arg Val Glu Val
1 5 10 15
Pro Asn Thr Asp Cys Ser Leu Pro Thr Lys Val Phe Trp Ile Ala Gly
20 25 30
Ile Val Lys Leu Ala Gly Tyr Asn Ala Leu Leu Arg Tyr Glu Gly Phe
35 40 45
Glu Asn Asp Ser Gly Leu Asp Phe Trp Cys Asn Ile Cys Gly Ser Asp
50 55 60
Ile His Pro Val Gly Trp Cys Ala Ala Ser Gly Lys Pro Leu Val Pro
65 70 75 80
Pro Arg Thr Ile Gln His Lys Tyr Thr Asn Trp Lys Ala Phe Leu Val
85 90 95
Lys Arg Leu Thr Gly Ala Lys Thr Leu Pro Pro Asp Phe Ser Gln Lys
100 105 110
Val Ser Glu Ser Met Gln Tyr Pro Phe Lys Pro Cys Met Arg Val Glu
115 120 125
Val Val Asp Lys Arg His Leu Cys Arg Thr Arg Val Ala Val Val Glu
130 135 140
Ser Val Ile Gly Gly Arg Leu Arg Leu Val Tyr Glu Glu Ser Glu Asp
145 150 155 160
Arg Thr Asp Asp Phe Trp Cys His Met His Ser Pro Leu Ile His His
165 170 175
Ile Gly Trp Ser Arg Ser Ile Gly His Arg Phe Lys Arg Ser Asp Ile
180 185 190
Thr Lys Lys Gln Asp Gly His Phe Thr Asp Pro Pro His Leu Phe Ala
195 200 205
Lys Val Lys Glu Val Asp Gln Ser Gly Glu Trp Phe Lys Glu Gly Met
210 215 220
Lys Leu Glu Ala Ile Asp Pro Leu Asn Leu Ser Thr Ile Cys Val Ala
225 230 235 240
Thr Ile Lys Arg Val Leu Ala Asp Gly Phe Leu Met Ile Gly Ile Asp
245 250 255
Gly Ser Glu Ala Ala Asp Gly Ser Asp Trp Phe Cys Tyr His Ala Thr
260 265 270
Ser Pro Ser Ile Phe Pro Val Gly Phe Cys Glu Ile Asn Met Ile Glu

275	280	285
Leu Thr Pro Pro Arg Gly Tyr	Thr Lys Leu Pro Phe Lys Trp Phe Asp	
290	295	300
Tyr Leu Arg Glu Thr Gly Ser	Ile Ala Ala Pro Val Lys Leu Phe Asn	
305	310	315
Lys Asp Val Pro Asn His Gly Phe Arg Val Gly Met Lys Leu Glu Ala		320
	325	330
Val Asp Leu Met Glu Pro Arg Leu Ile Cys Val Ala Thr Val Thr Arg		335
	340	345
Ile Ile His Arg Leu Leu Arg Ile His Phe Asp Gly Trp Glu Glu Glu		350
	355	360
Tyr Asp Gln Trp Val Asp Cys Glu Ser Pro Asp Leu Tyr Pro Val Gly		365
	370	375
Trp Cys Gln Leu Thr Gly Tyr Gln Leu Gln Pro Pro Ala Ser Gln Cys		380
385	390	395
Lys Leu Val Tyr Arg Lys Gly Val Leu Leu		400
	405	410

<210> 69

<211> 512

<212> PRT

<213> Caenorhabditis elegans

<400> 69

Met Asn Phe Ser Asn Lys Lys Val Ile Leu Lys Ala Phe Leu Ser Lys	
1	5
Asn Ile Ile Tyr Tyr Phe Gln Arg Gln Tyr Asn Tyr Lys Leu Glu Glu	10
	20
Ala Glu Tyr Arg Tyr Phe Thr Glu Arg Leu Phe Tyr Arg Arg Arg	25
	30
Asn Pro Val Glu Lys Ile Ala Gln Arg Ile Pro Lys Pro Gln Ile Glu	35
	40
Gly Thr Phe Thr Trp Ser Asp Glu Leu Arg Cys Asn Tyr Asp Gly Asn	45
	50
Thr Gln Phe Leu Pro Val Glu Ala Leu Glu Gly Cys Leu Pro Leu Glu	55
	60
Lys Leu Asn Gln His Leu Lys Pro Gly Phe Arg Leu Glu Val Val Val	65
	70
Arg Pro Ser Leu Asp Pro Ser Ile Thr Thr Lys Ser Pro Glu Ile Arg	75
	80
Trp Phe Gly Glu Val Thr Ala Val Cys Gly Phe Tyr Val Ala Ile Lys	85
	90
Phe Val Gly Glu Leu Asn Arg Arg Pro Cys Trp Phe His Met Leu Ser	95
	100
Glu Asp Ile Phe Asp Ile Gly Ser Gly Leu Lys Gln Asp Pro Ala Met	105
	110
Lys Trp Leu Gln Tyr Arg Pro Leu Ser Leu Leu Lys Pro Met Gln Cys	115
	120
Pro Lys Phe Trp Arg Arg Gly Ser Thr Pro Ala Pro Pro Val Pro Arg	125
	130
Pro Thr Glu Glu Ile Leu Asp Glu Phe Gln Ala Glu Leu His Glu Asn	135
	140
Arg Ile Ser Glu Pro Lys Ile Phe Asp Gln Leu Arg His Leu Ala His	145
	150
Arg Pro Ser Arg Phe Arg Leu Asn Gln Arg Val Glu Leu Leu Asn Tyr	155
	160
Leu Glu Pro Thr Glu Ile Arg Val Ala Arg Ile Leu Arg Ile Leu Gly	165
	170
	175
	180
	185
	190
	195
	200
	205
	210
	215
	220
	225
	230
	235
	240
	245
	250
	255
	260
	265
	270

Arg	Arg	Leu	Met	Val	Met	Val	Thr	Ala	Gln	Asp	Tyr	Pro	Glu	Asp	Leu
		275					280					285			
Pro	Ser	Val	Glu	Ala	Lys	Asp	Arg	Gln	Val	Gln	His	Glu	Asn	Val	Glu
	290					295					300				
Phe	Trp	Val	Asp	Glu	Ser	Ser	Phe	Phe	Leu	Phe	Pro	Val	Gly	Phe	Ala
305					310					315					320
Met	Ile	Asn	Gly	Leu	Arg	Thr	Lys	Ala	Thr	Glu	Gly	Tyr	Leu	Glu	His
			325						330					335	
Ser	Arg	Arg	Ile	Ala	Glu	Gly	Ser	Gly	Thr	Glu	Lys	Leu	Asn	Leu	Leu
			340					345					350		
Lys	Val	Gly	Gln	Lys	Phe	Glu	Leu	Leu	Asp	Pro	Leu	Ser	Asp	Leu	Arg
		355					360					365			
Gln	Ser	Phe	Cys	Val	Ala	Thr	Ile	Arg	Lys	Ile	Cys	Lys	Thr	Pro	Gly
	370					375					380				
Phe	Leu	Ile	Ile	Ser	Pro	Asp	Glu	Thr	Glu	Ser	Asp	Asp	Glu	Ser	Phe
385					390					395					400
Pro	Ile	His	Ile	Asp	Asn	His	Phe	Met	His	Pro	Val	Gly	Tyr	Ala	Glu
				405					410					415	
Lys	Phe	Gly	Ile	Lys	Leu	Asp	Arg	Leu	Ala	Gly	Thr	Glu	Pro	Gly	Lys
			420					425					430		
Phe	Lys	Trp	Glu	Gly	Tyr	Leu	Lys	Glu	Lys	Gln	Ala	Glu	Lys	Ile	Pro
		435					440					445			
Asp	Glu	Met	Leu	Arg	Pro	Leu	Pro	Ser	Lys	Glu	Arg	Arg	His	Met	Phe
		450				455					460				
Glu	Phe	Gly	Arg	Val	Leu	Glu	Ala	Val	Gly	Gln	Asn	Glu	Thr	Tyr	Trp
465					470					475					480
Ile	Ser	Pro	Ala	Ser	Val	Glu	Glu	Val	His	Gly	Arg	Thr	Val	Leu	Ile
				485					490					495	
Glu	Phe	Gln	Gly	Trp	Asp	Ser	Glu	Phe	Ser	Glu	Leu	Tyr	Asp	Met	Glu
			500					505					510		

<210> 70

<211> 411

<212> PRT

<213> Caenorhabditis elegans

<400> 70

Met	Ser	Glu	Phe	Leu	Lys	Ile	Val	Arg	Ala	Asn	Lys	Lys	Ser	Asp	Arg
1				5					10					15	
Lys	Leu	Asp	Lys	Thr	Tyr	Leu	Trp	Glu	Ser	Tyr	Leu	His	Gln	Phe	Glu
			20					25					30		
Lys	Gly	Lys	Thr	Ser	Phe	Ile	Pro	Val	Glu	Ala	Phe	Asn	Arg	Asn	Leu
			35				40					45			
Thr	Val	Asn	Phe	Asn	Glu	Cys	Val	Lys	Glu	Gly	Val	Ile	Phe	Glu	Thr
						55					60				
Val	Val	His	Asp	Tyr	Asp	Lys	Asn	Cys	Asp	Ser	Ile	Gln	Val	Arg	Trp
65					70				75						80
Phe	Ala	Arg	Ile	Glu	Lys	Val	Cys	Gly	Tyr	Arg	Val	Leu	Ala	Gln	Phe
				85					90					95	
Ile	Gly	Ala	Asp	Thr	Lys	Phe	Trp	Leu	Asn	Ile	Leu	Ser	Asp	Asp	Met
			100					105					110		
Phe	Gly	Leu	Ala	Asn	Ala	Ala	Met	Ser	Asp	Pro	Asn	Met	Asp	Lys	Ile
		115					120					125			
Val	Tyr	Ala	Pro	Pro	Leu	Ala	Ile	Asn	Glu	Glu	Tyr	Gln	Asn	Asp	Met
		130				135					140				
Val	Asn	Tyr	Val	Asn	Asn	Cys	Ile	Asp	Gly	Glu	Ile	Val	Gly	Gln	Thr
145					150					155					160
Ser	Leu	Ser	Pro	Lys	Phe	Asp	Glu	Gly	Lys	Ala	Leu	Leu	Ser	Lys	His

Arg	Phe	Lys	Val	165	Gln	Arg	Leu	Glu	170	Leu	Leu	Asn	Tyr	Ser	175	Asn	Ser
			180					185						190			
Thr	Glu	Ile	Arg	Val	Ala	Arg	Ile	Gln	Glu	Ile	Cys	Gly	Arg	Arg	Met		
		195					200					205					
Asn	Val	Ser	Ile	Thr	Lys	Lys	Asp	Phe	Pro	Glu	Ser	Leu	Pro	Asp	Ala		
	210				215						220						
Asp	Asp	Asp	Arg	Gln	Val	Phe	Ser	Ser	Gly	Ser	Gln	Tyr	Trp	Ile	Asp		
	225			230						235					240		
Glu	Gly	Ser	Phe	Phe	Ile	Phe	Pro	Val	Gly	Phe	Ala	Ala	Val	Asn	Gly		
			245						250					255			
Tyr	Gln	Leu	Asn	Ala	Lys	Lys	Glu	Tyr	Ile	Glu	His	Thr	Asn	Lys	Ile		
		260					265						270				
Ala	Gln	Ala	Ile	Lys	Asn	Gly	Glu	Asn	Pro	Arg	Tyr	Asp	Ser	Asp	Asp		
	275					280						285					
Val	Thr	Phe	Asp	Gln	Leu	Ala	Lys	Asp	Pro	Ile	Asp	Pro	Met	Ile	Trp		
	290				295						300						
Arg	Lys	Val	Lys	Val	Gly	Gln	Lys	Phe	Glu	Leu	Ile	Asp	Pro	Leu	Ala		
	305				310					315					320		
Gln	Gln	Phe	Asn	Asn	Leu	His	Val	Ala	Ser	Ile	Leu	Lys	Phe	Cys	Lys		
			325						330					335			
Thr	Glu	Gly	Tyr	Leu	Ile	Val	Gly	Met	Asp	Gly	Pro	Asp	Ala	Leu	Glu		
		340					345						350				
Asp	Ser	Phe	Pro	Ile	His	Ile	Asn	Asn	Thr	Phe	Met	Phe	Pro	Val	Gly		
	355						360					365					
Tyr	Ala	Glu	Lys	Tyr	Asn	Leu	Glu	Leu	Val	Pro	Pro	Asp	Glu	Phe	Lys		
	370				375					380							
Gly	Thr	Phe	Arg	Trp	Asp	Glu	Tyr	Leu	Glu	Lys	Glu	Ser	Ala	Glu	Thr		
	385				390				395						400		
Leu	Pro	Leu	Asp	Leu	Phe	Lys	Pro	Met	Pro	Ser							
			405						410								

<210> 71
 <211> 498
 <212> PRT
 <213> Caenorhabditis elegans

<400> 71																	
Met	Ser	Glu	Phe	Leu	Lys	Ile	Val	Arg	Ala	Asn	Lys	Lys	Ser	Asp	Arg		
1				5					10					15			
Lys	Leu	Asp	Lys	Thr	Tyr	Leu	Trp	Glu	Ser	Tyr	Leu	His	Gln	Phe	Glu		
		20						25					30				
Lys	Gly	Lys	Thr	Ser	Phe	Ile	Pro	Val	Glu	Ala	Phe	Asn	Arg	Asn	Leu		
	35						40					45					
Thr	Val	Asn	Phe	Asn	Glu	Cys	Val	Lys	Glu	Gly	Val	Ile	Phe	Glu	Thr		
	50				55						60						
Val	Val	His	Asp	Tyr	Asp	Lys	Asn	Cys	Asp	Ser	Ile	Gln	Val	Arg	Trp		
	65			70					75					80			
Phe	Ala	Arg	Ile	Glu	Lys	Val	Cys	Gly	Tyr	Arg	Val	Leu	Ala	Gln	Phe		
			85						90					95			
Ile	Gly	Ala	Asp	Thr	Lys	Phe	Trp	Leu	Asn	Ile	Leu	Ser	Asp	Asp	Met		
	100							105					110				
Phe	Gly	Leu	Ala	Asn	Ala	Ala	Met	Ser	Asp	Pro	Asn	Met	Asp	Lys	Ile		
	115						120					125					
Val	Tyr	Ala	Pro	Pro	Leu	Ala	Ile	Asn	Glu	Glu	Tyr	Gln	Asn	Asp	Met		
	130				135						140						
Val	Asn	Tyr	Val	Asn	Asn	Cys	Ile	Asp	Gly	Glu	Ile	Val	Gly	Gln	Thr		
	145				150					155					160		

Ser Leu Ser Pro Lys Phe Asp Glu Gly Lys Ala Leu Leu Ser Lys His
 165 170 175
 Arg Phe Lys Val Gly Gln Arg Leu Glu Leu Leu Asn Tyr Ser Asn Ser
 180 185 190
 Thr Glu Ile Arg Val Ala Arg Ile Gln Glu Ile Cys Gly Arg Arg Met
 195 200 205
 Asn Val Ser Ile Thr Lys Lys Asp Phe Pro Glu Ser Leu Pro Asp Ala
 210 215 220
 Asp Asp Asp Arg Gln Val Phe Ser Ser Gly Ser Gln Tyr Trp Ile Asp
 225 230 235 240
 Glu Gly Ser Phe Phe Ile Phe Pro Val Gly Phe Ala Ala Val Asn Gly
 245 250 255
 Tyr Gln Leu Asn Ala Lys Lys Glu Tyr Ile Glu His Thr Asn Lys Ile
 260 265 270
 Ala Gln Ala Ile Lys Asn Gly Glu Asn Pro Arg Tyr Asp Ser Asp Asp
 275 280 285
 Val Thr Phe Asp Gln Leu Ala Lys Asp Pro Ile Asp Pro Met Ile Trp
 290 295 300
 Arg Lys Val Lys Val Gly Gln Lys Phe Glu Leu Ile Asp Pro Leu Ala
 305 310 315 320
 Gln Gln Phe Asn Asn Leu His Val Ala Ser Ile Leu Lys Phe Cys Lys
 325 330 335
 Thr Glu Gly Tyr Leu Ile Val Gly Met Asp Gly Pro Asp Ala Leu Glu
 340 345 350
 Asp Asn Phe Pro Ile His Ile Asn Asn Thr Phe Met Phe Pro Val Gly
 355 360 365
 Tyr Ala Glu Lys Tyr Asn Leu Glu Leu Val Pro Pro Asp Glu Phe Lys
 370 375 380
 Gly Thr Phe Arg Trp Asp Glu Tyr Leu Glu Lys Glu Ser Ala Glu Thr
 385 390 395 400
 Leu Pro Leu Asp Leu Phe Lys Pro Met Pro Ser Gln Glu Arg Leu Asp
 405 410 415
 Lys Phe Lys Val Ile Leu Ile Ser Lys Arg Val Gly Leu Arg Leu Glu
 420 425 430
 Ala Ala Asp Met Cys Glu Asn Gln Phe Ile Cys Pro Ala Thr Val Lys
 435 440 445
 Ser Val His Gly Arg Leu Ile Asn Val Asn Phe Asp Gly Trp Asp Glu
 450 455 460
 Glu Phe Asp Glu Leu Tyr Asp Val Asp Ser His Asp Ile Leu Pro Ile
 465 470 475 480
 Gly Trp Cys Glu Ala His Ser Tyr Val Leu Gln Pro Pro Lys Lys Tyr
 485 490 495
 Asn Tyr

<210> 72

<211> 498

<212> PRT

<213> Caenorhabditis elegans

<400> 72

Met Ser Glu Phe Leu Lys Ile Val Arg Ala Asn Lys Lys Ser Asp Arg
 1 5 10 15
 Lys Leu Asp Lys Thr Tyr Leu Trp Glu Ser Tyr Leu His Gln Phe Glu
 20 25 30
 Lys Gly Lys Thr Ser Phe Ile Pro Val Glu Ala Phe Asn Arg Asn Leu
 35 40 45
 Thr Val Asn Phe Asn Glu Cys Val Lys Glu Gly Val Ile Phe Glu Thr

50	55	60
Val Val His Asp Tyr Asp Lys Asn Cys Asp Ser Ile Gln Val Arg Trp		
65	70	75
Phe Ala Arg Ile Glu Lys Val Cys Gly Tyr Arg Val Leu Ala Gln Phe		
	85	90
Ile Gly Ala Asp Thr Lys Phe Trp Leu Asn Ile Leu Ser Asp Asp Met		
	100	105
Phe Gly Leu Ala Asn Ala Ala Met Ser Asp Pro Asn Met Asp Lys Ile		
	115	120
Val Tyr Ala Ser Pro Leu Ala Ile Asn Glu Glu Tyr Gln Asn Asp Met		
	130	135
Val Asn Tyr Val Asn Asn Cys Ile Asp Gly Glu Ile Val Gly Gln Thr		
145	150	155
Ser Leu Ser Pro Lys Phe Asp Glu Gly Lys Ala Leu Leu Ser Lys His		
	165	170
Arg Phe Lys Val Gly Gln Arg Leu Glu Leu Leu Asn Tyr Ser Asn Ser		
	180	185
Thr Glu Ile Arg Val Ala Arg Ile Gln Glu Ile Cys Gly Arg Arg Met		
	195	200
Asn Val Ser Ile Thr Lys Lys Asp Phe Pro Glu Ser Leu Pro Asp Ala		
	210	215
Asp Asp Asp Arg Gln Val Phe Ser Ser Gly Ser Gln Tyr Trp Ile Asp		
225	230	235
Glu Gly Ser Phe Phe Ile Phe Pro Val Gly Phe Ala Ala Val Asn Gly		
	245	250
Tyr Gln Leu Asn Ala Lys Lys Glu Tyr Ile Glu His Thr Asn Lys Ile		
	260	265
Ala Gln Ala Ile Lys Asn Gly Glu Asn Pro Arg Tyr Asp Ser Asp Asp		
	275	280
Val Thr Phe Asp Gln Leu Ala Lys Asp Pro Ile Asp Pro Met Ile Trp		
	290	295
Arg Lys Val Lys Val Gly Gln Lys Phe Glu Leu Ile Asp Pro Leu Ala		
305	310	315
Gln Gln Phe Asn Asn Leu His Val Ala Ser Ile Leu Lys Phe Cys Lys		
	325	330
Thr Glu Gly Tyr Leu Ile Val Gly Met Asp Gly Pro Asp Ala Leu Glu		
	340	345
Asp Ser Phe Pro Ile His Ile Asn Asn Thr Phe Met Phe Pro Val Gly		
	355	360
Tyr Ala Glu Lys Tyr Asn Leu Glu Leu Val Pro Pro Asp Glu Phe Lys		
	370	375
Gly Thr Phe Arg Trp Asp Glu Tyr Leu Glu Lys Glu Ser Ala Glu Thr		
385	390	395
Leu Pro Leu Asp Leu Phe Lys Pro Met Pro Ser Gln Glu Arg Leu Asp		
	405	410
Lys Phe Lys Val Ile Leu Ile Ser Lys Arg Val Gly Leu Arg Leu Glu		
	420	425
Ala Ala Asp Met Cys Glu Asn Gln Phe Ile Cys Pro Ala Thr Val Lys		
	435	440
Ser Val His Gly Arg Leu Ile Asn Val Asn Phe Asp Gly Trp Asp Glu		
	450	455
Glu Phe Asp Glu Leu Tyr Asp Val Asp Ser His Asp Ile Leu Pro Ile		
465	470	475
Gly Trp Cys Glu Ala His Ser Tyr Val Leu Gln Pro Pro Lys Lys Tyr		
	485	490
Asn Tyr		

<210> 73
 <211> 1497
 <212> DNA
 <213> *Caenorhabditis elegans*

<400> 73
 atgtctgaat ttctgaaaat tgtcagagct aacaaaaaat cggacagaaa actcgataag 60
 acctacttgt gggaatccta ttacatcag ttcgagaaag gaaaaacttc tttcattcca 120
 gttgaagcat tcaatcgtaa cttacagtt aattttaacg aatgcgtgaa ggaaggagtt 180
 atcttcgaaa cagtgggtcca tgattatgac aagaactgcg attcgattca agtcagatgg 240
 tttgcacgaa ttgaaaaagt ttgctggatc agagtctctg ctgagtttat cggagctgac 300
 acgaaatttt ggctcaatat tttatcggac gatatgtttg gtttggcaaa cgccgcaatg 360
 agtgatccca atatggataa aattgtatat gctccgccc ttgcaatcaa cgaagaatac 420
 caaaatgata tggtaaatta tgtaaataat tgcattgatg gcgaaatcgt cggccaaact 480
 tcgctgtctc caaaattcga tgaagggaag gctctcctaa gcaagcatcg tttcaaagtt 540
 ggacaacgtc ttgaactatt aaattattcc aattctactg aaatacgcgt agcgcgaatt 600
 caagaaatat gtggacgacg aatgaatgta tctatcaca agaaagactt tcccgaatcg 660
 cttccagatg cagatgacga cagacaagtc tttagctctg gatctcaata ttggatagac 720
 gaggggaagct tcttcatatt tctgttggg tttgcagcag tcaatggata tcaactaaat 780
 gcgaaaaagg aatatattga gcacacaaat aaaattgctc aagcaataaa aaatggagaa 840
 aatccaagat atgactcaga cgacgtcaca tttgatcaat tagcaaaaaga tccaattgat 900
 cccatgattt ggagaaaagt taagggttga caaaagtgtg agctcatcga ccccttggct 960
 cagcaattca ataacctcca cgtcgtctcg attctcaaat tttgcaaaac tgaaggatat 1020
 cttattgtgg gaatggatgg tccagatgca cttgaagaca gttttcctat tcatatcaat 1080
 aatacattta tgttcccagt tggttatgcg gaaaagtata atttgggaact tgttccgcca 1140
 gatgagttca aaggaacatt cagatgggat gaatacttgg agaaagaatc tgcagaaacc 1200
 ctaccgcttg acttgttcaa gccaatgcct tcctaagaga gattagacaa atttaaggta 1260
 attctgattt ccaaacgggt aggactacgc cttgaagctg ctgacatgtg tgaaaatcag 1320
 tttatttgtc cagctacagt gaaatcagtt catggaagac tgataaatgt caatttcgac 1380
 ggctgggatg aagaatttga tgaactgtat gatgtggact cccatgatat tctaccgata 1440
 ggtatggtgtg aagcgcacag ttatgttcta caacctccga aaaagtacaa ctattga 1497

<210> 74
 <211> 1497
 <212> DNA
 <213> *Caenorhabditis elegans*

<400> 74
 atgtctgaat ttctgaaaat tgtcagagct aacaaaaaat cggacagaaa actcgataag 60
 acctacttgt gggaatccta ttacatcag ttcgagaaag gaaaaacttc tttcattcca 120
 gttgaagcat tcaatcgtaa cttacagtt aattttaacg aatgcgtgaa ggaaggagtt 180
 atcttcgaaa cagtgggtcca tgattatgac aagaactgcg attcgattca agtcagatgg 240
 tttgcacgaa ttgaaaaagt ttgctggatc agagtctctg ctgagtttat cggagctgac 300
 acgaaatttt ggctcaatat tttatcggac gatatgtttg gtttggcaaa cgccgcaatg 360
 agtgatccca atatggataa aattgtatat gctccgccc ttgcaatcaa cgaagaatac 420
 caaaatgata tggtaaatta tgtaaataat tgcattgatg gcgaaatcgt cggccaaact 480
 tcgctgtctc caaaattcga tgaagggaag gctctcctaa gcaagcatcg tttcaaagtt 540
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<213> *Caenorhabditis elegans*

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